2016 Medium Explorer (MIDEX)
Announcement of Opportunity

Astrophysics Explorer Program
Q&A

Change Log		
Rev.	**Date**	**Description of Changes**
01	06/14/16	Added Q&A 1
02	07/14/16	Added Q&A 2
03	08/10/16	Added Q&A 3-9
04	08/26/16	Added Q&A 10
05	9/09/16	Added Q&A 11
06	09/13/16	Added Q&A 12

Q1 : If a mission requires a balloon as the launch vehicle, but it does not fit within the Mission of Opportunity (MO) cost cap, can such a mission be proposed above the MO cost cap, but below the MIDEX cost cap, to be considered as a full-scale MIDEX and reviewed as such?

A1 : No, a MIDEX mission is a space mission not a suborbital mission.

Q2 : Page 4 of the Draft Astrophysics Explorers 2016 MIDEX AO says that the date for the Downselections of Investigations for Flight is "Late fall/early winter 2019." Is that correct?

A2 : No, the correct date for the Downselections of Investigations for Flight is "Late fall/early winter **2018**."

Q3 : Requirements 21 and 22 provide proposal instructions for describing use of radioactive materials. In response to previous AOs, this was covered in a "Special Processes" paragraph within F.3, Development Approach. There appears to no longer be a logical location in the proposal to address this requirement.

A3 : This information can still be contained in Section F.3.

Q4 : Requirements 23 and 26. This requires the use of Ka-band for the return of science data. In the past, this requirement has been limited to deep space missions, where the signal strength is low and where the S and X band spectrum are shared with other users in Spain and Australia. This requirement is not needed for missions in low earth orbit. In fact, it is risky for low inclination missions, since there is limited Ka band service outside of the polar regions. The Mission Operations and Communication Services document in the Program Library makes no mention of any restriction on Ka-band. What constitutes sufficient justification for use of an alternative communications approach? Given that these requirements necessitate potentially significant, and costly, changes to designs that were expected to be compliant based upon previous AOs, recommend deleting these requirements, limiting them to high data volume missions that use the DSN, or limiting this requirement to polar missions.

A4 : Alternative communications approaches that are critical to mission success should be justified in the proposal. The Program Library has been updated with documents with more specific information on Science Mission data communications.

Q5 : Requirement 26. The AO requires Ka-band for science data downlink. While the DSN has numerous Ka-band assets, the NEN currently has a very limited number of Ka-band assets to support near-Earth missions, especially non-polar orbiting spacecraft. Will proposals to use Ka-band with NEN in order to meet the AO requirement be considered higher risk than more robust solutions involving X or S-band with NEN? If the result of the Ka-band requirement is higher risk, then would that be adequate justification for missions to propose using X and/or S-band with NEN?

A5 : Requirement 26 of the AO states that "the proposal shall contain a justification for the use of an alternative communications approach." Proposers can propose to use X and/or S-band with NEN and include a justification.

Q6 : Requirement 26. In cases where the science data volume is low, the requirement to use Ka-band for science data downlink adds an additional telecom system beyond a likely S-band/X-band CMD/TLM telecom system. If a lower data rate telecom system permits all mission data volume rate requirements to be met, the inclusion of a required Ka-band adds cost to the mission without providing any comm benefits. Is a cost increase with no benefit to data volume/rate an acceptable justification for the use of other bands for science data downlink?

A6 : Requirement 26 of the AO states that "the proposal shall contain a justification for the use of an alternative communications approach." Proposers can propose to use X and/or S-band include a justification based on heritage and cost benefits to the mission.

Q7 : Section 7.2.4, TMC Feasibility of the Proposed Mission Implementation Evaluation. Factor C-3 "…includes an assessment of the adequacy of the plans for ….. mission assurance, …." With the deletion of the requirement for a Mission Assurance description as part of the Development Approach section, if feels proposers are at risk of being downgraded against C-3 evaluation criteria TMC panels will use.

A7 : Mission assurance will be assessed, as stated in the Evaluation Factor C-3, as part of "an assessment of the proposer's understanding of the processes, products, and activities required to accomplish development and integration of all elements…" As a guide, a Draft Mission Assurance Document for Class C Missions from the Explorers Program Office is posted in the Program Library.

Q8 : Table B3b Template. Section 7.4.3 implies that the bridge phase funding will be identified in phase A, leading to an amendment of the phase A contract. Recommend deleting the Phase B bridge phase funding line at the bottom of the Table B3b template.

A8 : The bridge phase funding needs to be identified in the Step 1 proposal and included in Table B3b.

Q9 : Requirement B-5 states that "Links to other parts of the proposal are permitted, but links to materials outside of the proposal are not." Please confirm that URL links are permitted for documents outside the proposal for the List of References (Appendix J.12).

A9 : Yes, URL links for documents are permitted in the reference list. However, as Section J.12 states, "proposals must be self-contained: any data or other information intended as part of a proposal must be included within the proposal itself."

Q10 : Will the Falcon 9 be one of the launch vehicles supplied by the NASA Launch Services Program?

A10 : The launch service for this mission would be competed and awarded approximately 30 months before launch. The launch providers currently on contract who, depending on size of AO-selected mission, would be expected to compete are Orbital ATK (Pegasus, Minotaur-C, and Antares), Lockheed Martin (Athena), SpaceX (Falcon 9FT), and United Launch Alliance (Atlas V).

Q11 : Will the MIDEX AO Preproposal Conference be in-person or via web/teleconference? And when do you expect it to be?

A11 : It will be via web/teleconference, and take place two to three weeks after the AO release.

Q12: Section 5.9.2 of the draft MIDEX AO said that there would be a charge against the PI-Managed Cost Cap for a low Earth orbit of less than 38-degrees inclination. Is that still the case?

A12: No, please refer to the revised ELV Launch Services Program Information Summary document now in the Program Library, which specifies the orbits covered by the standard launch services. Although the maximum mass allowed under the standard launch service for this AO at 5- and 10-degree inclinations are still to be provided (TBP), they are expected to be adequate for MIDEX applications.